American
GAS JOURNAL
Formerly American Gas Light Journal
EST. 1859

VOL. 118. No. 12.
WHOLE NO 3824.

NEW YORK, SATURDAY, SEPTEMBER 22, 1923

Subscription $3 per year
$4 Canada $5 Foreign

Library of Congress
SEP 24 1923
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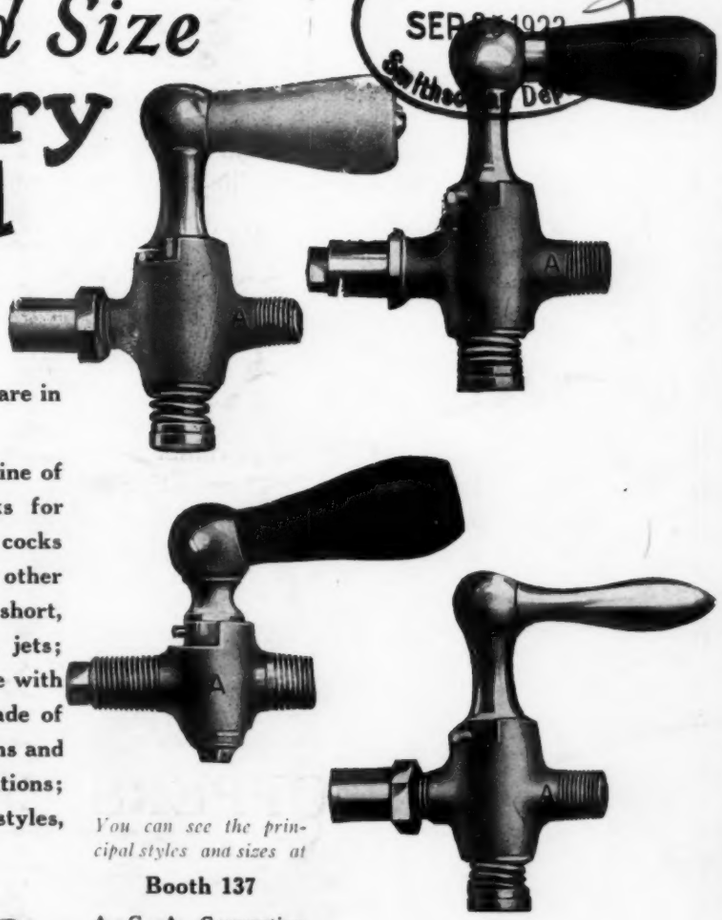
A Style and Size for Every Need



No matter what your requirements are in the gas cock line we can fill them.

In our most complete and modern line of gas cocks may be found gas cocks for ranges, gas cocks for hot plates, gas cocks for water heaters, and gas cocks for other gas appliances, big and little, tall and short, with stub-nosed nozzles and patent jets; some with porcelain handles, and some with black enamel; made of brass and made of iron; made to suit U. G. I. specifications and also to comply with A. G. A. specifications; standard and special; all kinds, all styles, all sizes.

You can see the principal styles and sizes at

Booth 137

A. G. A. Convention at Atlantic City, Oct. 15-19.

Place your orders for your fall requirements there.

Acme
GAS COCKS

Acme Brass Works, 8211 Collins Avenue, & Belt Line R. R., *Detroit, Mich.*

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Koppers Coal Gas Plant

Faced with the certainty of an inadequate supply of anthracite coal and consequently poorer quality, domestic consumers everywhere are turning to COKE as the ideal fuel for house-heating.

Many gas companies, realizing this, will turn it to their advantage by installing coal gas plants.

KOPPERS SMALL OVEN COAL GAS PLANT is designed to meet just this condition.

Producing a maximum of gas per ton of coal carbonized and a very much better grade of coke, it exactly meets the requirements of the gas industry.

These features, combined with the comparatively small initial cost, cheaper operating and maintenance charges and longer life, make this plant an attractive investment for any gas company having a send-out over half a million feet of gas per day.

Is there a market for coke in your vicinity? Have you thought of developing one? It will mean cheaper gas if you do.

The KOPPERS COMPANY

PITTSBURGH, PA.

CHICAGO, ILL.

WOODALL-DUCKHAM VERTICAL RETORTS

FIRST in 1903 **FOREMOST in 1923**

150 PLANTS ERECTED or on ORDER

Total Capacity, 17,460 Tons Per Day

ORDERS RECEIVED SINCE JANUARY 1st, 1919

	Capacity Tons per day
*Dundee, Scotland (2nd Installation)	110
*Brechin, Scotland	21
*Newton-in-Makerfield, England (Extension)	18
*Dunfermline, Scotland	110
*Lochgelly, Scotland	21
*Ripon, England	40
*Walsall, England	100
*Kilsyth, Scotland	24
*Inverness, Scotland	40
*Bergen, Norway (2nd Installation)	57
*Stockport, England	168
*Glasgow, Scotland	1,356
*Adelaide, Australia	80
*Portsea Island, England (2nd Installation)	140
*Carnoustie, Scotland	21
*Wexford, Ireland	18
*London, G. L. & C. Co. (4th Installation)	200
*Neath, Wales Kensal Green	60
*Bolton, England (2nd Installation)	168
*Workington, England (Extension)	23
*Stourbridge, England	80
*Wolverhampton, England	80
*Troon, Scotland	28
*Trondhjem, Norway (2nd Installation)	38
*Warrington, England	112
*Manchester, England	336
Carried Forward	3,452

	Capacity Tons per day
Brought Forward	3,452
*Newton-in-Makerfield, England	21
*Wallasey, England (2nd Installation)	120
*Lanark, Scotland	21
*Gourock, Scotland	28
*Brighton, Australia	60
*Fremantle, Australia	20
*Christchurch, New Zealand	40
*Wanganui, New Zealand (2nd Installation)	40
Perth, Australia	60
*Birmingham (7th Installation) Nechells	840
*Sheffield, England	336
*Dairen, S. Manchuria	100
*Paisley, Scotland	140
Hinckley, England	60
Dresden, Germany (3rd Installation)	180
Cheltenham, England	120
Market Harborough, England	26
Leatherhead, England	40
The Hague, Holland	168
Liverpool, England	100
Paris, France	420
Geelong, Australia	60
Aberdeen, Scotland (2nd Installation)	192
Innerleithen, Scotland	7
Poole, England (4th Installation)	168
Buffalo, N. Y.	280
TOTAL CAPACITY Tons per day	7,166

***In Operation**

For Particulars apply to

ISBELL-PORTER COMPANY

NEWARK, NEW JERSEY

Gas Engineers and Builders of Gas Works

American Gas Journal

SIXTY FIFTH YEAR

Published Weekly by American Gas Light Journal, Inc., 53 Park Place, New York, N. Y.

ELBERT P. CALLENDER, Pres. S. G. KRAKE, Vice-Pres.-Treas. A. M. GLEASON, Sec'y.

STANTON G. KRAKE, Managing Editor

ISMAR GINSBERG, Technical Editor.

CHAS. S. MYERS, Field Representative.

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Subscription $3.00 per year, including postage, in the United States, Mexico, Cuba, Porto Rico, Hawaii or the Philippines; in Canada, $4.00; foreign, $5.00—Single Copies, 10 cents.

AMERICAN GAS JOURNAL, September 22, 1923. Vol. 119, No. 12. Published weekly by American Gas Light Journal, Inc., New York, N. Y. Entered as second-class matter Jan. 9, 1917, at the post-office at New York, N. Y., under the Act of March 3, 1879.

AMERICAN
GAS JOURNAL

Vol. 119. No. 12 NEW YORK, SEPTEMBER 22, 1923 Whole Number 3424

Anthracite Coal and Gas Sales

The increased cost of hard coal will cause larger additional demand for gas in New York State

William M. Carpenter
Engineer Empire State Gas & Electric Association

The use of manufactured gas in New York State is inextricably associated with the price of anthracite coal and every rise in the cost of coal means a proportionate demand for gas. While the annual unsettlements of the hard coal industry and the increases in the price have worked a considerable hardship on those gas companies who are unfortunate enough to be dependent upon anthracite for their generator fuel, these periodical strikes have done more than anything else to stimulate the demand for gas and have really proved to be a great boon for the industry. At the same time they have pointed out in an unmistakable manner the future course of anthracite prices. The relation between the price of coal and the demand for gas is so intimate that the trend of the hard coal industry foreshadows an additional huge demand for gas which the companies should recognize and prepare for.

Manufactured gas is used for heating and cooking purposes in direct competition with anthracite coal. Estimates vary, but the figures for the use of 15% of the gas for lighting, 60% for cooking and 25% for heating and for industrial use seem to be fairly close to the average. Gas is the only present competitor in the cooking field, oil being largely confined to competition with the smaller, or "steam," sizes of coal in the heating field. At the same time the competition of oil with anthracite has reached large proportions in New York State, and has resulted in driving from the market a huge amount of small hard coal, estimated by various authorities at from 500,000 to 1,000,000 tons a year. This loss to the anthracite producers must inevitably be made up on the other sizes of coal. The greater the inroads made upon the "steam" sizes by oil and electricity, the higher will have to be the price of the so-called "domestic" sizes and the greater will be the demand for gas. In the same way, any increased wage cost at the mines cannot easily be added to the smaller sizes, already at an economic balance with oil and bituminous coal, but will have to be borne entirely by the householder's stove and furnace. It seems reasonable to expect, therefore, that the ultimate result of the latest strike "settlement" will be a raise in the retail price of the householder's coal of from $1 to $1.50 per ton.

Relation Between Gas Sales and Hard Coal Price

How the sales of manufactured gas in New York State have increased in an almost identical proportion to the rise in the retail prices of hard coal is seen from the following table, which exhibits an almost uncanny relationship between the two. The cost of hard coal during the decade following the settlement of the great strike of 1902 was practically stationary. Just before the war, however, prices began to mount and have kept on rising ever since at a steadily increasing rate; and the higher the price of coal has become, the more people have rebelled against it and the more gas heaters, stoves and furnaces have been bought and installed.

Year	Average Retail Price*** of Anthracite in New York State.**	Sales of Manufactured Gas, New York State.	Percentage Increase Over 1910. Price of Coal.	Sales of Gas	Annual Per Capita Use of Gas.
1910.....	$7.50	46,165,000 M	...	...	6,500 ft.
1914.....	7.80	52,000,000 M	4%	12½%	6,750 ft.
1918.....	9.90	62,800,000 M	33%	36%	7,500 ft.
1922.....	13.00	76,200,000 M	73%	65%	8,750 ft.
1923.....	14.50	90,000,000 M*	94%	94%	10,000 ft.

*Based on estimate—the sales to June 30th alone were 39 billion feet.
**In those sections of the State where manufactured gas is available.
***Per short ton.

The production and shipments of anthracite have remained practically stationary for many years, the figures for as far back as 1907 being the same as those for 1921, while the population of the State has grown from 9,100,000 to 10,650,000. The per capita use is steadily decreasing in proportion to the inroads made on this fuel by gas and oil. On the other hand, the per capita sales of gas (in the territory where gas is available) has jumped by leaps and bounds.

The situation is one of extreme interest to the gas companies, inasmuch as the terms of the settlement of the latest dispute at the mines will apply only for two years, and, if we may be permitted to judge the future by the past, the same identical performance will be gone through in September, 1925. Each dollar increase in the retail price of hard coal will sell another 10 billion feet of manufactured gas in New York State and, in addition, will bring just that much nearer the crucial point, already not very far off, where, dollar for dollar, it will become more economical to burn gas in place of coal in the house-heating furnaces. When this last is attained, the day of anthracite as a fuel for domestic use will have gone forever.

Appliance Advertisement*

Essentials of advertising copy featuring gas appliances

K. C. Odgen
Westchester Lighting Co.

TO make sales, advertising must accomplish four things:

1st: It must arrest attention.
2nd. It must arouse interest.
3rd. It must create desire.
4th. It must stimulate action.

This is an old rule but one which has been strengthened by long experience. Although these four steps are very closely related, are equally important and interdependent, it seems advisable, at this time, to confine our analysis of appliance advertising to one phase only, namely, arresting attention.

Ways of Arresting Attention by Advertising

The attention of the prospective buyer may be arrested in many ways. An artistic window, an attractive store display and even a human fly stunt or a brass band will accomplish the result. The methods which may be employed to attract attention are so many and so varied that it is proposed to still further limit this paper to printed advertising.

There are many types of printed advertising, some spectacular and others refined and dignified that are equally effective in arresting attention. We, in this industry, can use them all. The gaudy circus-like broadside that seems to be popular for certain campaign purposes today is one type. An opposite type is the invitation card that breathes refinement and dignity, and, when mailed to a selected list of prospects, carries an atmosphere of exclusiveness which appeals to them.

Historical Appeal in Advertising Copy

The advertisements that are tied with historical events are effective and popular. Those that hint of the news of the day—live news—front page stuff—are particularly attention-arresting. The slogan or catch-phrase type of advertisement is one that is tried and true and might be more effectively used by us. Who does not know what soap floats, what cigarette is toasted, or what tire is being presented when we read "Time to Retire" pictured with a sleepy boy and his candle?

Attention may be arrested also when advertisements strongly stress the appeal of price, fear, pleasure, efficiency, labor-saving qualities, etc. A reduced price is always attractive providing the merchandise is in the commodity class as distinguished from the specialty class. The fear appeal, for so long used in insurance advertisements, may be used effectively by us also in many ways. Pleasure is easily associated with all our merchandise. Efficiency and labor-saving appeals are familiar and need no discussion at this time.

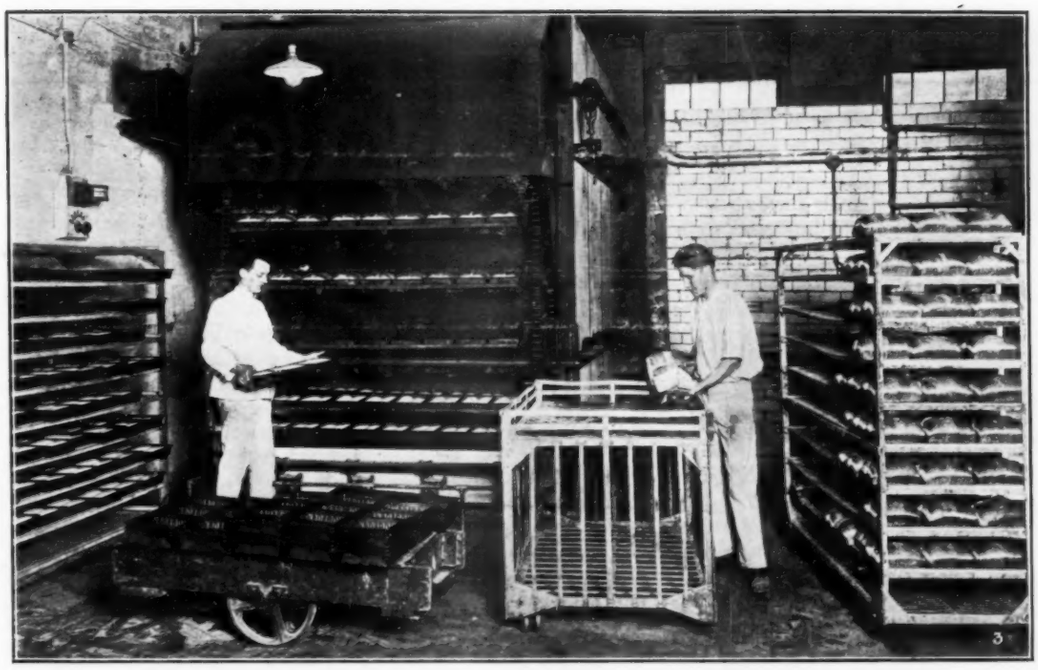
Advertising Copy Should be Seasonal

If we could only know what is uppermost in our prospects' mind at the time he sees our advertisement and we could incorporate his thoughts in our advertisement, the matter of arresting his attention would be simple. The advertisements of gas heaters on cold days tie in well with the desire for being warm which is most important to him at that moment. At Christmas time our suggestion of Christmas gifts supply is a ready solution to his most pressing problem. These types of advertisements are strong in attention arresting qualities because they accomplish the result suggested before.

There is one important item which should be incorporated in our advertisements frequently. The current news of the day, uppermost in every one's mind which is valuable only for a short time, however is always compelling in any form and what is most important such an advertisement will hold the reader's interest after it has attracted or arrested his attention.

(Continued on Page 244)

*Delivered before the Annual Meeting of the Commercial Section of the Empire State Gas and Electric Association.



(Courtesy the Baltimore Gas & Electric News)

Gas For Wholesale Baking

Description of a large installation in Baltimore

Eugene D. Milener

Industrial Fuel Department, Consolidated Gas & Electric Co., Baltimore, Md.

Gas for wholesale baking is fast becoming a worthy competitor of coal, the fuel that monopolized this field for so many years. As bread baking is one of the oldest of manufacturing processes, there has been opportunity to develop coal ovens to a high degree of efficiency. In fact, walking into a modern bakery, equipped with massive coal ovens, one would think that perfection had been reached in producing the staff of life. However, the strongholds of the supporters of solid fuel are beginning to weaken and the advocates of a flexible fuel are now well beyond the outposts and are rapidly reaching the inner works of the enemies' activities.

Gas the More Expensive Fuel

How has this come about? Surely, the fuel required to bake ten thousand loaves of bread can be purchased cheaper when in its crude solid form than it can be purchased after having been gasified and refined. Without exception, the large bakers are good business men and insist upon being shown where profits will result before making a change in their equipment. The answer is that in baking, gas can be applied in exactly the right way and coal cannot.

To properly meet the requirements of a large bakery, an oven must be able to produce its maximum output hour after hour with perfect uniformity of quality. The intermittent coal-fired oven has been tried and found wanting, due to the change of temperature between periods of firing. This has led to the well recognized fact that with continuous coal or oil firing, a muffle is required. A muffle is a large brick compartment through which the bread travels and must be kept entirely sealed off from the coal or oil combustion space. Great piles of brick must be heated up in order to force the required baking heat through the muffle walls into the baking chamber.

Description of Modern Bakery

The most recent bakery to replace coal with gas is that of the Meade Baking Company, 1107-17 N. Asquith Street. Practically the entire output of this bakery is delivered direct to the home by the company's trucks. This necessitates an unfailing output from the ovens, as an hour's delay would deprive many families of fresh bread for breakfast. One gas oven has replaced four coal ovens and provided many mechanical features not available with the older type. Pans of bread are placed on 85 shelves, each of which travels a distance of 115 feet through the oven. After the bread is placed on the shelf it is carried through a heat sealed door into the oven proper and gradually enters the zone of greatest temperature. Every loaf travels exactly the same distance through an evenly heated space, eliminating the slightest chance of any variation in quality. Correct temperature is maintained by a sensitive Cutler

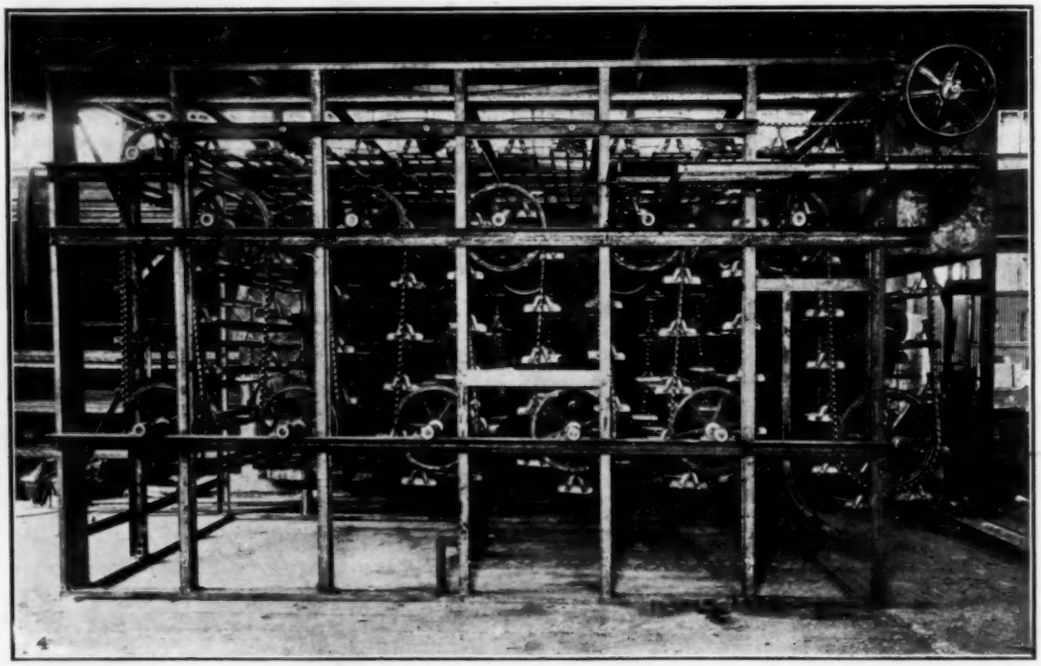
Hammer Company solenoid type thermostat and the heat cannot vary more than 5 degrees F during a whole day's run.

The baking time varies from 35 to 45 minutes and can be changed at the will of the operator. After traveling the whole distance through the oven, the shelves return through another opening in the front. The brown loaves with crisp, tender crust, are removed by the same operator who 35 or 40 minutes before had started them on their journey in their uncooked state. The development of this most up-to date device is most remarkable when one considers that 2,200 loaves of bread can be baked each hour, and the floor space occupied is only 9 ft. by 13 ft. The space occupied by the displaced coal ovens was 60 ft. by 16 ft., besides large bins for coal and ash storage and trucks for moving these unsightly reminders of old methods of baking.

To back up the motto, "Fresh From Our Oven to Your Home" necessitates an organization to not only produce the baked products as near delivery time as possible but also one having the proper delivery equipment, so that 12,000 families in Baltimore and its suburbs will receive their bread for breakfast. In delivering, electric trucks, horse and wagons, and gasoline trucks are used, with the former predominating.

Gas Is Burnt Where Needed

Gas is the only fuel that can be burned where the heat is needed in a continuous bake oven, viz., directly in the chamber where the bread is baked. Let us consider what this means. It means the elimination of all muffles, furnaces, flues, etc., and cutting the floor space required to one quarter of that required by coal ovens. By burning gas just where and when it is needed, the large wastes of heat are avoided and the cost of gas is kept lower than the cost of coal.



(Courtesy the Baltimore Gas & Electric News)

PRODUCTION OF BITUMINOUS COAL

First Seven Months.
In Thousand net tons.

	1923	1922	1921	1920	1919	1918
January	50,178	37,489	41,148	49,748	42,193	42,227
February	42,160	40,856	31,524	41,055	32,103	43,777
March	46,802	49,976	31,054	47,850	34,293	48,113
April	42,564	16,000	28,154	38,764	32,712	46,041
May	46,076	20,601	34,057	39,841	38,186	50,443
June	45,490	22,624	34,635	46,095	37,685	51,138
July	*45,114	17,147	31,047	45,988	43,425	54,971
Total	*318,384	204,693	231,619	309,341	260,597	336,710

*Estimated—subject to revision.

Standardization of Gas Meters

Standardization plan used in Montreal

By Mr. Thurley

From an examination of the report prepared by the Consumers Meter Committee for 1922 of the A. G. A., it will be seen that there is a large number of capacities for each different size of meter. In the case of

3-light meters the capacities of ½ in. drop in pressure vary from ..... 56 to 72
5-light ..... 71 to 112
5-light B ..... 138 to 156
10-light ..... 110 to 174
20-light ..... 167 to 236

and so on for the larger meters. As the sizes from 3 to 20, inclusive, form by far the largest percentage of gas meters in use, it is evident that there is considerable opportunity for the standardization of meters and the basing of this standardization on capacity rated in cubic feet per hour.

Plan of Standardization

In order to minimize this trouble our company have decided to standardize the size of meters used in our service. We first made a study of the different installations which we are called upon to serve. We then made a test of all the different types of meters which we had in our service and rated them in cubic feet of air at both a ½ in. and 1 in. drop in pressure. The old designation of lights was neglected and badges were placed on the different meters, this badge designating their capacity. Tables were prepared as follows:

TABLE No. 1.

		Capacity—Cu. Ft. of Air per Hour.	
Rating.	Designation.	½ in. Drop.	1 in. Drop.
3-light P. P.	A	60	100
3-light Ordinary	B-3	50	70
	B-2	60	100
	B-1	90	134*
5-light	C	62	102
10-light	D	102	156
20-light	E	180	276*
30-light	F	300	514
30-light new	F-1		*
50-light			
60-light	G	327	600
		450	720*
60-light	H. G.	720	1200
100-light	H	720	1200
25 Fluid	K-25	1500	2800*
50-Do	K-50	3000	4900*

Meters marked * are to be considered standard.

TABLE No. 2.

Appliances Used.	Per Hour Consumption.	Size of Meter.
Three ring stove Two Gas Irons	50 cu. ft.	A or B-3
Gas Range Three Gas Irons	80 cu. ft.	B-2 or B-1 or C.
Gas Range Water Heater Four Gas Irons	100 cu. ft.	B-1 or D.
Gas Range Water Heater Gas Fire	100 cu. ft.	B-1 or D.
Gas Range 2½ Automatic Water Heater Gas Fire	150 cu. ft.	B-1 or D.
Five to Eight Gas Irons One Candy Furnace Gas Range 3-hp. Gas Fired Boiler Two Section Hotel Range Ten Gas Irons 4-hp. Gas Fired Boiler Two Candy Furnaces Gas Range No. 3 Automatic Heater	200 cu. ft.	E.
Gas Range No. 4 Automatic Heater Gas Fire Three Section Hotel Range Large Size Rivet Heaters	300 cu. ft.	F or F-1.
Gas Range No. 6 Automatic Heater Gas Fire	450 cu. ft.	G.
Gas Range No. 8 Automatic Heater Gas Fire	550 cu. ft.	H or H. G.
Bake Ovens, Lead Works, Glass Works, etc.	2000 cu. ft. up	K-25 for 1500 per hour. K-50 for 3000 per hour.

Note—To obtain capacity in cubic feet of gas multiply the number shown under the heading "Capacity" by 1.25.

Designation.	Capacity Cu. Ft. of Air per Hour, ½ in. Drop in Pressure.
B-1	90
E	180
G	450
H	720
K-25	1500
K-50	3000

Meter Sizes for Different Appliances

A further table was then prepared showing the appliances used, consumption per hour, and size of meter.

A still further table was prepared showing appliances used and size of meter:

TABLE No. 3.

Appliances Used.	Size of Meter.
Three Ring Stove Two Gas Irons	A or B-3.
Gas Range Three Gas Irons	B-2 or B-1 or C.
Gas Range Water Heater Four Gas Irons	B-1 or D.
Gas Range Water Heater	B-1 or D.
Gas Fire Gas Range 2½ Automatic Water Heater Gas Fire Five to Eight Gas Irons One Candy Furnace and Gas Range 3-hp. Gas Fired Boiler Two Section Hotel Range Ten Gas Irons 4-hp. Gas Fired Boiler 2 Candy Furnaces Gas Range No. 3 Automatic Heater Gas Range No. 4 Automatic Heater	B-1 or D. E.
Gas Fire Three Section Hotel Range Large Size Rivet Heaters	F or F-1.
Gas Range No. 6 Automatic Heater Gas Fire	G.
Gas Range No. 8 Automatic Heater Gas Fire	H. or H. G.
Bake Ovens	K-25 for 1500 ft. per hour.
Lead Works, Glass Works, etc.	K-50 for 3000 ft. per hour.

Table No. 1 is intended for use of the Superintendent of the Meter Installation Department, and also the Order Department.

Table No. 2 is intended for use by the same Departments.

Table No. 3 is for use by the meter installers and fitters, the idea being that when a customer applies to the Contract Department for gas he will state his requirements and when the order is issued it will carry a designation of the meter to be installed. The fitter, when installing the meter, can then check up the installation by referring to his table, and, if he judges that is unsatisfactory, a further inspection or check will be made by the proper Department. It was further deemed advisable not to furnish the fitters with figures indicating capacities as it might lead to confusion.

Standard Minimum Capacities of Meters

In order to prevent, as far as possible, a recurrence of the trouble we experienced in the past, we decided to adopt a minimum of standard capacities, and these are as follows:

For capacities over 3000, we use K-25 and K-50 arranged in batteries to suit the capacity required.

While we do not maintain that the capacities, which we selected, are the most satisfactory standards that could be used, still they are the most satisfactory in consideration of the meters we have in our service and we believe that a movement should be started among meter manufacturers and users in Canada to standardize gas meters, including cases, valves, passages, diaphragms, etc. While this may appear at first more advantageous to the user than to the manufacturer, still in the last two years a lot of work has been done on standardizing in the electrical line. I refer more to transformers and electric meters, and when standardization was first proposed the manufacturers were quite averse to it, but after working on it for the past two years they are now as enthusiastic about it as the consumers were at the start, if not more so. I believe that in undertaking to standardize gas meters in Canada, we will find that it will result in considerable advantage to all concerned. My personal opinion is that there are very few secrets in this line which are worth keeping to ourselves; as a matter of fact, I believe that they are made more valuable by passing around.

Interesting the Youth of a City in a Public Utility

How the Rochester Gas & Electric Corporation advertised to its future market

By W. B. Edwards

RECENTLY a public utility, The Rochester Gas & Electric Corporation, has made use of the type of advertising in which the youth of a city is appealed to. Its compaign consisted of twenty-six pieces of newspaper copy run three times weekly.

For its basis, the campaign had a prize essay contest. The prize offered amounted to $1,250 divided into fifty-six prizes, twenty-eight for juveniles of fifteen years of age and under, and a like amount for those over fifteen and under nineteen. The money rewards ranged from two prizes of $100 each to thirty prizes of $10 each. The essays were to be written around the title: "The Rochester Gas & Electric Coporation—What It Is—What It Does."

Announcing Advertisement

Announcing the contest, the first advertisement, addressed "To the People of Rochester:" said in part:

"For mutual advantage we want you to know this company and its operations better. We desire a continuation in larger measure of your business and your support. These you will more readily give when you understand the facts which make it worth while for us both to do business together.

"The Rochester Gas and Electric Corporation, in satisfactorily supplying the Public of Rochester and its environs with gas, electricity, motor fuel and coke, is contributing a service which in a very large degree adds to the comfort, convenience and well-being of the entire community.

"Because this 'Service' is such a vital element in our domestic, industrial and civic life and because the company is a co-operative institution made up of the public, employees and stockholders, it will unquestionably be of value to all concerned to have a better understanding of the financial, technical and other aspects of the company's business. To this end, we shall utilize what we consider to be the best medium for the purpose, the newspaper, to give you in a series of advertisements, which will be published on Mondays, Wednesdays and Saturdays, the story of this company's activities and its properties.

"We believe this information will be interesting and valuable, especially to the young, who will be the customers, employees and stockholders of the Greater Gas and Electric Company of the future. Therefore, to stimulate careful study of these advertisements, we offer the following prizes for essays on the company."

This was followed by a list of the prizes, an explanation of the contest's rules, a few words concerning the judges and directions for mailing the essays.

Advertising Phases of Company's Business

Then came the remaining twenty-five advertisements, each treating on some specific phase of the utlity's business or service. Some of the topics covered were: Coal supply problem, water power, electric generation, electric distribution, electric power for street railways and street lighting, gas manufacture, by-products, rates and bills, territory served, co-operation, the company's financial problem, etc. Each piece of copy was numbered and mentioned that proofs of previous insertions could be obtained upon request. The idea in selecting these topics, was to furnish information that could be used in writing an essay.

A problem encountered at the outset was that of planning the copy so it would not be beyond the mental grasp of the youthful writers. This was a constant difficulty. The activities of a gas and electric utility are so technical and complex that it was no easy matter to explain matters simply enough to make them understandable to the city's youth. At this point the ordinary impulse would be to write in kindergarten language. However, it was decided more would be gained were the copy planned in such a way that while not over the head of the average youngster it would, nevertheless, force him to ask his parents to explain certain points not readily grasped by the immature mind. This meant bringing the older folks into the contest indirectly which was a decided advantage.

Great Interest Aroused

The contest aroused interest quickly. School teachers, libraries and business concerns in Rochester and elsewhere asked for complete sets of the advertisements. The company's educational department kept in touch with many entrants by means of the telephone and through personal calls. A large number of inquiries were received and answered during the period of the contest. In some cases entire school classes were interested.

In addition to the newspaper insertions, handbills were delivered to homes when bills were sent. Large cloth signs were placed in a prominent position on the sides of the company's twenty-four coke trucks which cover all sections of the city daily. The space on back of the gas bills was also utilized. Display windows at the main office were pressed into service. A large electric sign which the company maintains carried a message concerning the contest.

Successful Contestants Feted

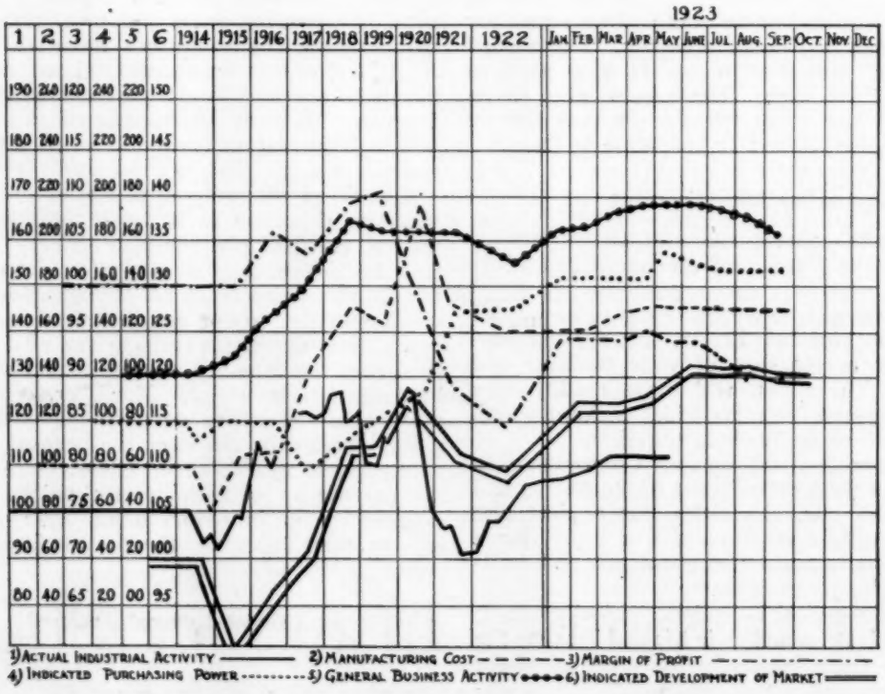
The prize winners were announced several months after the close of the campaign. A party was given to the successful contestants to which their parents and teachers were also invited. Among other events during the course of the entertainment was a showing of two modern motion pictures entitled: "The Electric House" and "Back of the Button." These pictures showed how gas and electricity served to make life more pleasant.

The essays quite generally proved the advertisements had been read thoroughly and that the youngsters had a fair understanding of the company's magnitude and problems as well as some perception of its function in serving the community. Considerable enthusiasm was aroused and it is felt that not only was a better mutual understanding between the company and its customers secured but a fair start made toward obtaining the good-will of the next generation.

The Industrial Situation

Business moves upon slightly lower level—Market remains healthy

L. W. Alwyn-Schmidt



The following article depicts the general business condition of the country. The gas industry, which is gradually assuming an increasingly industrial aspect will be interested in following up the trend of industry and it is our intention to publish articles of this nature from time to time.

AMERICAN business, after having withstood for nearly a year the pressure from abroad, now begins to feel the reflexes of the continued disturbed conditions of Europe and our big industries show a tendency to go ahead very slowly with plans for further expansion. This in turn has had a marked effect upon the wholesale and retail trade, where it has been generally realized that the prosperity of the early spring and summer has made way for a period where only earnest work and careful planning will lead to success. But our country has never been better equipped to meet the exigencies of such a situation.

The war has taught us the advantages of organization upon a national basis. It has also taught us the usefulness of having exact information of the nation's requirements, supplies and available needs of production. So preparations have been quietly made for the finish of the spring boom. The descent to a slightly lower market level has been accomplished without any apparent discomfort. There is no reduction of wages, no forced selling of retail stocks, no lack of work. In fact business has retained all the aspects of normalcy with a fine prospect of an early general improvement.

A very good sign under such circumstances always

is continued stability of the general price situation, the cost of production and the rate of consumption. It is, therefore, very gratifying to see that almost all of these essentials of national prosperity have undergone little or no change. Where such changes exist, they point rather to a strengthening than to a weakening of the economic structure.

Retail and Wholesale Prices

Retail and wholesale prices as recorded by governmental and private agencies have remained practically steady, since the establishment of their present range several months ago, showing that the general consumer is perfectly willing to remain in the market at this level. The latter is also borne out by news from most retail centres telling about comparatively large turnovers in all classes of merchandise, all due, of course, to seasonal changes customary during the summer months.

This very satisfactory condition in the wholesale and retail markets will most likely continue all through the year. It will be made possible by the continued high level of purchasing strength of the wage earner and the salaried man, who have an ample surplus of their earnings available for extra purchases. The prosperity of the earning classes is in fact one of the most encouraging signs of the present market constellation. It augurs a regular market for all staple merchandise and the luxury trades should feel its effect by a steady demand for better class if not high priced goods.

Manufacturers and large distributors will do well to keep an eye upon this feature of the situation. For, at first it will mean a continued demand with a possibility of slightly better prices and better stabilization of manufacturing profits which are still somewhat below the margin of safety. In the second place it will serve as an indicator for his distribution policies.

The consumer has an increasing desire to get a dollar's value for a dollar spent. Earnings have been invested temporarily or permanently in expectancy of lower prices. As these have now materialized, savers are beginning to spend their money conservatively. The furniture, the building, and similar industries will derive most benefit from this condition. The market favors in every way the distribution of articles of more permanent value, and it is those which will produce the best sales. They should be prominently featured.

No Sensational Rise in Production Costs

The prediction, made several months ago, that no sensational rise might be expected in the cost of production has come true. Wages, in fact, have experienced a slight decline in several branches of industry and there is no apparent cause to justify any immediate increase.

Industry and business, therefore, enter the autumn season under reasonably good conditions. True, we have against us the unsettled situation in the European markets which has prevented us from maintaining the rate of progress made in the earlier parts of the year, but the slight drop during the summer and consequent decrease in industrial and commercial activity should have amply discounted by this time any unhealthy tendency originating from that quarter. There is no evidence of previous overproduction; on the contrary all indications point to a perfect maintenance of the balance of supply and demand. The scale tips rather towards the producer, as stocks apparently have remained below the average. The flow of merchandise between producer and consumer is normal and progresses at a sufficient speed to keep factories busy without overtaxing their facilities. No expansion is reported of the commercial credit system and there is a sufficient reserve of money in the hand of investors to take care of any possible addition to the national industrial equipment. The labor situation is pronounced good with little cause for friction with capital.

Under such circumstances manufacturers and distributors are justified in expecting a satisfactory fall season, producing a healthy flow of business on price levels that will be sufficiently high to secure reasonable profits and continued employment of labor.

"What Kind of Insurance Should Gas Companies Carry?"*

Homer M. Eaton
W. E. Moss & Co., Detroit, Mich.

TO discuss the subject of insurance in all its phases is too broad a subject to take up in this paper. I will simply confine myself to a few thoughts pertaining to insurance, and some suggestions as to the insurance Gas Companies should carry, with particular reference to the smaller companies.

In considering insurance, we must not think of it only as an expense, and endeavor to keep that expense to a minimum, but instead, think of it as something very desirable and necessary to the best interests of the company and to the public whom we serve. Any losses sustained by not carrying the proper insurance, would undoubtedly be greater than the cost of the insurance. A company should carry that insurance that will enable it to be properly compensated for all expected losses, as far as it is possible to do so. It should always be borne in mind that a loss, even if covered by insurance, cannot always fully compensate a utility for the actual total loss sustained. In addition to the property loss, there may be either a reduction in income or difficulties in continuing to render service or a great inconvenience to your consumers. The permanent loss of the ser-

*Paper prepared for thirty-first annual meeting Michigan Gas Association September 19 and 20, 1923, Grand Rapids.

vices of a valuable employee occasioned by an accident, cannot readily and promptly be overcome by the employment of a new individual, as such new workman must generally first be trained in the performance of his duties, and this training incurs expense which may not always be apparent, but is represented in the cost of producing gas.

Workmen's Compensation

In this State, we have the Workmen's Compensation Act providing for specified amounts to be paid to employees for accidents. This insurance should be carried in a company that has a representative locally, who could assist the management in making out the required accident reports, and obtaining for the utility prompt and desirable adjustments of any and all accidents that might occur. Some insurance companies make inspections of the property from time to time and call attention to certain hazards which might be the cause of accidents and the utility should promptly make all improvements or changes required in accordance with such inspection report.

Public Liability Insurance should also be carried with a local agent for the same reasons as stated for Workmen's Compensation Insurance.

Fire Insurance

In regard to Fire Insurance this is very frequently left to the judgment of the insurance agent as to the character and volume of the insurance to be carried, but this matter is so important to the utility that the management should give it more consideration than this. In determining the amount of fire insurance to be carried, the Utility Manager should obtain the assistance of some capable builder or contractor in the community, and learn what it would cost the company to replace any or part of its buildings, apparatus or equipment in the case of fire, and then insurance in reputable companies should be taken out in the total amount of the estimated cost of replacing the property. It is not always desirable to take this insurance on co-insurance basis, inasmuch as a major portion of the Works Property would not be subject to fire hazard. For example, a retort house, composed of brick walls and a frame roof with only benches therein, might in case of a fire, sustain a complete loss of the roof and some minor injuries to the bench iron work, but the total cost of replacing this loss would only be a small portion of the total value of the buildings and contents, and therefore in this case, if insurance is carried at the full value of the expected loss, the Company will be paid 100%. In determining the value of replacing buildings and equipment, the estimated reproduction cost of the buildings would not include excavations, foundations, underground sewers and piping, concrete floors, etc. The Insurance Inspection Bureau from time to time makes inspections of property for fire insurance risks and from this inspection determines the rate per $100.00 of insurance. If an inspection has not been recently made of your property you can arrange for such an inspection through your local fire insurance friends. When this inspection is completed, you should determine if there are any hazards noted therein, which you can economically remove and thereby reduce the amount of the premium. From actual experience, some Companies have been able to double the amount of fire insurance carried at even a less premium than what was paid formerly by following out the suggestions made in one of these inspection reports.

Boiler Insurance

The next item of insurance that should have serious consideration is that for boilers. There are probably few hazards in a gas plant that cause more damage than an exploding boiler, both as to property and life. The insurance should be carried in that company which will give you regular and minute inspections. Every criticism made in an inspection report, as to the condition of a boiler, should be promptly taken care of. We suggest that it is very desirable to have a steam recording gauge, so that the management knows each day that the boilers are not operated beyond allowable pressure.

Miscellaneous Insurance

In addition to the insurance as mentioned in preceding paragraphs, we would suggest that serious consideration ought to be given to the following lines of insurance,—automobile fire, theft, public liability and property damage for each automobile or truck in service; also, tornado, check forgery bonds, office, messenger or paymaster hold-up, safe burglary, fidelity or surety bonds and plate glass on buildings owned by the utility.

Even if a company endeavors to protect itself by carrying insurance for every hazard that might occur, there is a certain amount of injuries and damage expense which it is not always possible to insure. Companies should therefore, in addition to their insurance premiums, include in their operating costs, an amount which is estimated as ample to provide for these unforeseen and uninsurable losses. For example, payments required to be made for loss of trees killed by gas leakage.

Types of Companies

There are three principal types of fire and casualty insurers and they are the Stock Company, the Mutual Company and the Reciprocal or Inter-Insurance Exchange. A few words might be of interest as to these three types. The Stock Company is organized similar to a bank with capital, surplus and reserves and the stockholders are obligated up to the amount of capital invested, in case of any financial difficulties.

Mutual Company

The Mutual Company is organized on a co-operative basis and each member is personally liable for his share in the losses as well as in the profits. You may receive dividends but you may also be subjected to assessments or in case of liquidations may be liable to your pro-rata share in the liability of the Company. It has been held in some cases that even after you have discontinued carrying insurance in such a company, that you are still liable for any losses not properly compensated for, and which losses were incurred during the period you were carrying insurance in that Company. Briefly the losses of a Mutual Company are paid by the policy holders and not the stockholders, as there are no stockholders.

(Continued on Page 244)

As The Journal Views It

THE GAS RATE

The prosperity of the gas industry depends to a large extent on the gas rate, the price that is received from the customer for each thousand cubic feet of gas that he consumes. Unless this rate is adequate, the gas company cannot function properly. The public is likewise concerned with the gas rate for it has to pay for its gas according to the rate that is established by law. It goes without saying that in order for amicable relations to exist between the gas companies and the public, in order for one to have confidence in the other, the gas rate must be fair to both. The public must feel that it is paying a fair price for the gas and the gas company must likewise be satisfied that it is receiving a proper return for the service that it renders.

On the face of it, the making of a rate for gas, especially when the rate is established by a supposedly disinterested and impartial body, the public service commission, ought to be a simple matter, involving no great complications or serious trouble with either of the two parties concerned. This might be expected all the more, in as much as high court decisions have laid down the principle of an adequate return on the investment in gas properties after giving due consideration to labor, supplies and other expenses, incurred in the manufacture, distribution and sale of gas.

Nevertheless, the rate making problem is far from being solved. The decisions of rate making bodies, not only in regard to gas but with respect to the other public utilities as well, have constantly met with criticism from one source or another, but most always from the public who are obliged to pay for utility service at a designated rate. Similarly in frequent instances, the public utilities themselves have also had good reasons for complaining about the rates. The position of the public service commission is not an enviable one. In this problem it has to satisfy both sides and many times it is a very difficult if not entirely impossible task.

The public service commission is an elective or appointed body and it owes its existence either directly or indirectly to the vote of the people. The people themselves cannot understand the intricacies of rate making nor can they see why rates should be raised under certain conditions. All they know is that they will have to pay more for gas or for other public service when the rate is raised, and, as soon as that hapens they lose all their confidence in the members of the public service commission responsible for the rate, and are encouraged to use their franchise to remove them from office.

Accordingly, the position of the public service commission is thus: Either they maintain rates at such points satisfactory to the public or else risk the loss of office. This is not in the nature of a criticism of these bodies. There are commissions that do the right thing in spite of public opposition. The fact, however, remains that rate making bodies are generally hostile to the utilities and must necessarily be so. It is really a sine qua non condition of their existence.

The whole matter of rate making is evidently based as very unstable foundation, no matter what the nature of the rates themselves may be. It is almost an impossible task for the rate making body to satisfy both sides. The whole proposition of rate making ought to be based on a more equitable plan; a plan that would leave both the gas company and the public content that they have been dealt with justly.

Such a plan is afforded in the Florida arbitration rate law, a law that was passed by the Florida legislature at the session just closed. The new rate making law is based on that fundamental and characteristically American principle, arbitration. If the public service commission makes a rate for gas which is not satisfactory to the utility companies, then the utility company is allowed to select an arbitrator and the city commission is similarly allowed to make such a selection and the two arbitrators, meeting,

select a third, whereat the three get together to study the rate and come to a decision as to what is a just and reasonable price that the consumers should pay for the service that is given to them. This rate is then made the legal rate.

A study of the details of this plan leads to the opinion that the law is well deserving of thought and consideration. It allows the rates to be determined upon the merits of the situation and surely such rates need not be feared by either gas company or consumer as being detrimental to their interests. As a general method of rate making it marks a distinct advance and it may, if generally adopted, remove by far the greater part of the troubles and litigations that now surround the making of gas rates.

APPLIANCE ADVERTISEMENT

(Continued from Page 234)

Connecting Advertising Copy With News

Two examples—Chinese bandits take foreigners captive—it is news. Our advertisement reads: "Chinese bandits take foreigners captive." The civilization of China is one of the oldest in the world, and yet they use gas heaters in their homes. You should use gas heaters in your modern homes. We have them for sale," etc. "The German mark has fallen to 7,000,000 to the dollar"—news item. Again our advertisement says: "The German mark has fallen to 7,000,000 to the dollar." Seven hundred million marks would be required to buy the best gas range in our store. We will install the range in your home, however, for one hundred good American dollars. Others at lower prices. Se them, etc. Very crude examples but they may give you the thought.

Use of Slogans

The slogan advertisement might be emphasized by our industry to a much greater extent with effective results. "Warmth Without Waiting" is an excellent slogan for a gas heater and makes a suggestive impression on one's mind. The slogan "Fresh Live Air" as applied to electric fans, paints for you a picture of summer happiness and comfort. "Comfortably Cool Cooking" or some such slogan should help with our range sales. Use a slogan frequently in your advertisement.

And finally it is suggested that liberal use be made of the manufactures stuffers. Choose them with care, however, and then mail them liberally. Some of them, due to their bright colors and attractive illustrations are particularly strong in attention-arresting qualities.

PROPERTIES OF IRON CARBONYL

A study of the physical and chemical properties of iron carbonyl is being made by the Department of the Interior at the Pittsburgh experiment station of the Bureau of Mines. Special attention is being given to the formation of deposits of this material in gas pipes, resulting in stoppages.

WHAT KIND OF INSURANCE SHOULD GAS COMPANIES CARRY?

(Continued from Page 242)

Reciprocal Company

The Reciprocal or Inter-Insurance Exchange is also organized on a mutual basis, except with an additional element in the person known as "Attorney-in-fact," who is the Manager of the Exchange. Each subscriber to this exchange is personally liable for his pro-rata share of the liabilities as well as the assets. This form of exchange is similar in all conditions to that of the Mutual Insurance, except the additional feature of having the business handled by the Attorney-in-fact, who is released from all liability by a power-of-attorney which the subscriber is required to sign before he can secure a policy.

Personally I do not think that a utility can afford to take out insurance in the ordinary mutual company or the reciprocal or inter-insurance exchange, on account of possible losses that might be sustained from being a policy holder in such company. The reduction in the cost of the insurance of 10%, 20% or 30% that may be enjoyed, might be a small item if the company was required to make up any losses or assessments levied by these organizations.

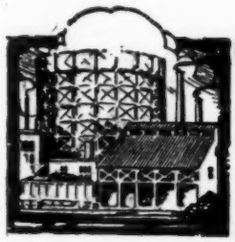
I hope that these few thoughts may be the means of enabling some utilities to improve their protection by insurance. Losses sustained by a utility for not being properly covered by insurance, and which losses may happen any time, might seriously embarrass its financial situation. We cannot overlook every opportunity that will assist in our desire to render continued, uninterrupted service.

SPRINKLERS FOR GAS SCRUBBERS

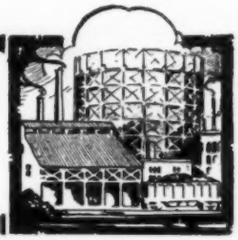
The gas is passed upwards over wooden slats (b) arranged within a casing (a), which are sprayed with water from a tray (d). The horizontal base of the tray is provided with short nozzles (e) of such dimensions as to maintain an equilibrium between the supply to and discharge from the tray. A small impact plate (t) is arranged immediately below each nozzle. A flat tapered hood (h) is arranged within the tray so as to cover all the nozzles, and so that the lower edge is immersed in the liquid in the tray. The liquid is supplied from pipe (f) to the center of the hood. The supply of the liquid to the tray around its periphery insures a uniform depth over all the nozzles, since the rate of flow over the surface of the tray is slow. Any excess of liquid is distributed over the edge of the tray. The nozzles (e) may be interchange to vary the amount of liquid discharged.

WATER GAS MANUFACTURE

German Patent No. 353649 is concerned with the process for the manufacture of a mixed gas containing water gas and coal gas, in which each of the before-mentioned constituents is developed alternately. The gas that is developed when a hot glass is passed through the generator is removed from the lower part of the producer. In this way the hot waeer gas which is formed during the flowing of the generator is conducted through an annular space filled with crude fuel and surrounding the outlet pipe mentioned above.



NEWS OF THE GAS INDUSTRY



New Jersey Gas Association Has Get-Together Meeting at Ocean City, N. J.

The New Jersey Gas Association held its summer meeting at the Hotel Flanders, Ocean City, N. J., Wednesday, Sept. 19th. There was a lot of business and a lot of recreation crowded into one day.

The one big feature of the meeting was the election of 310 new members. This makes the New Jersey Gas Association the second largest state gas association in the United States, the head of the list being held by the Illinois Gas Association.

The chairman of the membership committee, John L. Canover, Public Service Co., Newark, N. J., and the other members of his committee have shown what can be done to build up membership. We presume every gas company in the state of New Jersey is a member, but should there be any that are not members, it behooves them to get busy at once and write to R. A. Koehler, secretary-treasurer, Public Gas Co., Newark, N. J., for a bundle of subscription blanks, and not only enroll their company as a member but also their department heads. If they will do this it is more than a possibility that the New Jersey Gas Association will be able to announce at their next meeting that they have the largest membership of any State Gas Association in the United States.

After brief reports by the chairmen of various committees had been made, the meeting was addressed by Major J. S. S. Richardson of the Penna. Public Service Information Committee, Harrisburg, Pa. He stated that thirty-six states now had such public information bureaus, and that in the state of Pennsylvania over fifty public utility executives were registered in their speakers' bureau, and address from time to time Rotary Clubs, Chambers of Commerce, Women's Clubs on some phase of public utilities.

As stated before, the meeting was part business and part recreation. The chairman of the Entertainment Committee is Stanley Grady, of Robert & Manders Stove Co., Philadelphia, Pa. His chief lieutenant is C. E. Bartlett, of the Bartlett Co., Inc., Philadelphia, Pa. Mr. Bartlett has his summer home at Ocean City, and some time ago he considered the idea that the beach at Ocean City was a fine place for Captain Kidd, of buccaneer fame, to have buried some of his treasure. Mr. Bartlett evidently spent many long hours in an endeavor to prove or disprove his theory.

At any rate, just before luncheon he announced that there were several treasures buried in the sand and presented every one who wanted to dig for buried treasures a small hoe and chart and advised them to get busy. The chart was as follows:

TO FIND YE TREASURE

One should place his back against a piling supporting a board walk and an electric light standard and face out to sea. Then he should take—

8 paces forward and turn one-quarter turn to his right and then take

20 paces and turn one quarter turn to his right and then take

10 paces and turn one quarter turn to his left and then take

14 paces and turn one quarter turn to his left and then take

8 paces and turn one quarter turn to his right and then take

23 paces and turn three full turns to his right and then take

8 paces and turn one quarter turn to his right and then take

20 paces and turn one quarter to his left and then take

20 paces and step three side steps to his right and then take

3 paces backward and turn one quarter turn to his right and then take

8 paces forward and turn one quarter turn to his left and then take

20 paces and turn three quarters of a turn to his left and then take

12 paces and turn one quarter turn to his left and then take

20 paces and take two side steps to his right and then turn one quarter turn to his right and then take

12 paces and two side steps to his left and then turn one half turn to his left and then take

3 paces backward and turn one quarter turn to his right and then take

12 paces and turn one quarter turn to his right and then take

20 paces and turn one quarter turn to his left and then take

13 paces and dig and at about one half foot in depth I have buried the following treasures, filched midst blood and tears from many victims:

In about three minutes 150 gas men were doing forward march, side stepping, right and left turns, and then the sand began to fly. It is safe to say that the sands at Ocean City never before received such rough treatment. In a few minutes the calm atmosphere of Ocean City and vicinity was rent asunder by a long, loud yell. A "lucky stiff" (that is what all the other treasure diggers called him) had unearthed a metallic box inside of which was an order for a compass-range finder donated for the

occasion by the U. G. I. Contracting Co. of Philadelphia, Pa. The lucky treasure digger was Donald G. Watson, Bridgeton, N. J.

After that, long, loud yells were frequent until Mr. Grady announced that all of the buried treasure had been found.

The other treasure finders were as follows: W. G. Gribbel, Philadelphia, Pa., an order for a Stetson hat, donated by the Lovekin Water Heater Co.; T. M. Carroll, Millville, N. J., a box of cigars, donated by William M. Crane & Co.; William A. Couch, Bridgeton, N. J., a three-burner Oriole Hot Plate, donated by the Baltimore Gas Appliance and Mfg. Co.; B. B. S. Packer, Holmesburg, Pa., a Dunhill pipe, donated by the Welsbach Gas Lamp Co.; C. M. Nixon, Millville, N. J., meter spray pump, donated by Jos. J. Griffin & Co.; E. H. Earnslow, Newark, N. J., Iwanta Comfort gas iron, donated by Strauss Gas Iron Co.; Claude Hiles, Bridgeton, N. J., Potable Heating Elements, donated by General Gas Light Co.; Wm. H. Grimm, Bridgeton, N. J., Kompak Tank Heater, donated by The Kompak Co.; R. W. Lee, Vineland, N. J., No. 1½ Lion Tank Heater, donated by Wm. F. Reid Sales Co.; H. E. Mason, Long Branch, N. J. Solarglo Radiant Heater, donated by Roberts & Manders Co.; H. M. J. Lloyd, Philadelphia, Pa., No. 25 Ruud Tank Heater, donated by Bartlett & Co., Inc.; Wm. C. Buell, Millville, N. J., two A. G. A. Convention tickets, donated by the Gas Utilities Co.; L. D. Dickerson, Glassboro, N. J., Estate Electric Heater, donated by Griffiths Sales Co.. Inc.

The results of this strenuous digging was evidenced when lunch was served. But then, the lunch was good, so why should there have been anything left over?

After lunch the meeting was addressed by A. C. Boswell, City Solicitor, who graciously welcomed the gas men to Ocean City.

Mr. J. P. Hanlon, President of the New Jersey Gas Association, announced that at 2.30 P. M. the boat would leave for a sail. He emphasized the fact that the boat would go out beyond the three-mile limit. This announcement was evidently considered by the gas men as an invitation to leave the dining room in a hurry, which they did.

As a combined business and recreation meeting it was a big success and was attended by nearly 200 gas men and their guests.

Pacific Coast Association Holds Enthusiastic Meeting

Del Monte, Calif.—Approximately 250 prominent gas company representatives and their wives were in attendance at the Thirtieth Annual Convention of the Pacific Coast Gas Association which convened at Hotel Del Monte on Sept. 11 and closed on Sept. 14. Gas men were present from practically all of the leading California gas utilities in addition to those from Oregan, Washington, Vancouver, B. C.; Honolulu, H. I., and the Republic of Panama.

Although the attendance at the 1923 convention was not as great as that of the 1922 convention held at Santa Barbara, according to the statement of several of the organization officers, no better program has been stated in the thirty years during which the body has been in existence. The program was well arranged, everything went according to schedule and the western gas men set a fine example for convention activity.

Monday, September 10, was registration day for the delegates and their wives, 180 having registered before the first night, according to William Henderson, secretary of the association, who had charge of the registration desk. The registration continued up to Wednesday evening, a number of the delegates from more distant points arriving late.

President Wade Welcomes Convention

The convention opened promptly at 10 o'clock on Tuesday morning, President Franklin S. Wade, superintendent of operation of the Southern Counties Gas Company of California, Los Angeles, presiding. Wade started the convention machinery in motion with an address of welcome to the delegates and a brief statement of the achievements of the Pacific Coast Gas Association during the twelve month period closing. Wade's paper was a well balanced review of facts in which he pointed to the tremendous growth of the gas industry on the coast, installation of millions of dollars of new equipment to the plants and systems and to the development of great volumes of natural gas in Southern California. He also called attention to the flush gas and oil production, particularly in California, and showed the relation of the oil to the gas industry.

Following President Wade's opening address the regular convention order of business started under way. The roll call showed that delegates had traveled thousands of miles from all parts of the coast to be present, Vancouver, B. C., Honolulu and Panama being the homes of some of the gas men. Then followed the reading of the minutes of the last session by Secretary William Henderson. Following the communications there was the report of the secretary-treasurer, showing that the finances of the association were in good shape. Other routine business of the opening session was followed by the report of the Committee on Public Relations by D. J. Young of Tacoma. In presenting his report Chairman Young stated that the report was not the unanimous statement of the committee, but a majority report. He took the attitude that public relations were matters which each utility should work out for itself. This attitude was promptly challenged by William Baurhyte, vice-president and general manager of the Los Angeles Gas & Electric Corporation, and by George L. Myers. Interesting discussion followed in which the point was stressed that public relations should be given greater consideration by the association.

On the Public Relations Committee with Chairman Young were John Keiller, Vancouver, B. C.; F. A. Leach, Jr., San Francisco; Samuel Klein, Stockton; Harry Warner, Salina, Kansas; Wm. Baurhyte, Los Angeles; A. B. Macbeth, Los Angeles; Van E. Britton, Oakland; A. E. Holloway, San Diego; G. L. Myers, Portland, and LeRoy M. Edwards, Los Angeles.

Following the adjournment for luncheon the afternoon session opened under the chairmanship of E. W. Hodges, auditor of the Pacific Gas & Electric Company, San Francisco. Speakers for the Accounting Committee Session were E. G. Campbell, who spoke on "Cost Accounting for Gas Meter Repairs," and William Evans, who presented a paper on "Demonstration of a Machine Billing System for Consumers' Accounts." In the latter speech Mr. Evans was assisted by a representative of the Burroughs Adding Machine Company. Interesting discussion developed during the accounting session in which representatives of several gas companies participated.

The second day's program opened at 9:30 o'clock Wednesday morning, President Wade calling the meeting to order. The day's session was in charge of the Technical Committee, Chairman E. S. Hall, general superintendent of the Portland Gas & Coke Company, presiding. Following a brief address Hall presented the various speakers of the day. "Gas Generator Design" was a technical paper presented by W. S. Yard of San Francisco. G. S. Rollow spoke on "Works Connections." K. C. Tomlinson presented a paper on "Naphthalene Removal," closing the morning session.

Interesting Technical Papers

The afternoon discussion opened with a paper by R. S. Fuller of the Pacific Gas & Electric Company on this subject, "Unaccounted-for Gas." Fuller stressed the point that since unaccounted-for gas was one of the most tremendous items of expense of the gas company, it was important to study this subject. He was followed by L. M. Klauber of San Diego, who talked on "Electrolysis." C. R. Miller talked on "Consumer's Meters," and R. M. Conner presented a paper on "Gas Appliance Testing Code." "Natural Gas" was given by William Moeller, Jr., of Los Angeles. John Keillor of Vancouver, B. C., presented a paper on "Carbonization." One of the most interesting papers of the Technical Session was that presented by by Harry L. Masser, assistant engineer of the State Railroad Commission, Los Angeles. Masser gave a comprehensive presentation of the subject, "Natural Gas Operations in Southern California," setting forth interesting features about the great natural gas development around Los Angeles. Masser talked with the aid of a large map of Southern California, showing the routing of the gas from the various gas fields to the many cities of that district.

The last day's session opened Thursday morning, the Commercial Committee Session being in charge of Chairman H. M. Crawford, sales manager of the Pacific Gas & Electric Company of San Francisco. Crawford opened his session with a brief resume of the year's commercial development in the gas industry. James L. Lynch, a sales counselor, talked on "Developing Men for the Gas Industry." Lynch has worked in the development of men for modern industry and urged not only recruiting college men for the gas business but urged training the present employees for the tasks in which they are at present engaged.

An illustrated talk was given by A. L. Crane, publicity director of the San Francisco Furniture Exchange. Crane spoke on "Creating a Market for Gas" and strongly urged the use of newspaper advertising, national magazine advertising as well as unique window displays for the coast gas companies. He showed with the aid of colored slides the development of the modern advertisement and stressed the point that most of the great national organizations are today using national advertising copy in magazines. He urged the association to appeal to the American Gas Association for support in a national campaign to sell gas to the American public. His talk, given without the aid of notes, received the greatest applause, according to the statement of several association officials.

The afternoon program was crowded into the morning session and the two editors, M. R. Thompson, Wrinkles, and John Clements, Experience, presented their reports. An interesting report was presented by Thompson, assisted by A. F. Bridge, Rate Engineer of the Southern Counties Gas Company. Clements, one of the charter members of the association established thirty years ago, talked of the development of the industry during that period. He has been in attendance at practically each of the succeeding conventions.

The annual dinner was held on Thursday night. President Wade, retiring head of the association, officiated. An excellent program of music was rendered during the dinner hour and preceding the speaking program a committee presented a unique farce, "Public Futilities." This number consisted in tearing to pieces a gas range on a platform with humorous lines injected into the farce from time to time.

President Wade introduced Charles H. Dickey, president of the American Meter Company, who directed his remarks particularly to ladies present. Up to last year's Santa Barbara convention no ladies had been in attendance at the annual banquet, but President Wade stated that the ladies had become so important in the annual event that it was decided to invite them again this year. Dickey proved himself well adapted to this line of procedure and the ladies were responsive with applause.

Public Relations Stressed

The speaker of the evening was LeRoy M. Edwards, general counsel for the Southern Counties Gas Company of California. Edwards chose for his subject "Making Friends With the Public." The speaker divided his subject into four parts, as follows: Publicity, Purchasing Locally, Courtesy, and Building Public Relations through Strong District Managers. He stressed the value of publicity and urged the gas companies to tell

their story to the consuming public. He stated that much support could be won by the companies by buying through local offices rather than through a single purchasing department. Although the purchasing agent plan, he said, would be cheaper, he stated that good relations could be developed by buying from the local small town merchant.

He stressed courtesy. He admitted that a great deal had been said about courtesy but that more should be done to win the public through this simple plan.

He advised the larger companies with district managers in smaller cities to support their representatives in becoming members of local civic organizations. He explained that the local gas manager could do a great deal for his company through these civic bodies and said that the managers should be encouraged in assisting or supporting any civic work.

Edwards' talk was well received, and although comparatively brief, it was so arranged that he told his story in a very short time.

Election of Officers

President Wade then announced the election of directors, officers and new committeemen for the following year. The personnel of the association for the coming year are as follows:

H. R. Basford, H. R. Basford Company, San Francisco, President.

E. L. Hall, general superintendent, Portland Gas & Coke Company, Vice-President.

Wm. Henderson, Pacific Gas & Electric Company, San Francisco, Secretary-Treasurer.

Directors—C. B. Babcock, C. B. Babcock Company, San Francisco; Wm. Moeller, Jr., Los Angeles; Van E. Britton, Vancouver; W. S. Yard, San Francisco; L. M. Klauber, San Diego; M. R. Thompson, Los Angeles, and A. B. Day, Los Angeles.

Chairmen of Committees:

Arrangements—N. R. McKee, Los Angeles; Members, E. L. Hall, Portland; Experience, John Clements, Oakland; Technical, W. S. Yard, San Francisco; Public Relations, Lee Newbert, Oakland; Accounting, C. W. Platt, Portland; Commercial, L. Galbraith, Oakland, and Publicity, F. S. Myrtle, San Francisco.

Following the announcement of the new officers and directors for the ensuing year, retiring President Wade pinned the president's emblem on the coat lapel of newly-elected President Harold R. Basford, thereby terminating his twelve months as president of the Pacific Coast Gas Association. Both Basford and Hall made brief speeches of acceptance and the thirtieth annual convention of the western organization was brought to a close.

On Friday several of the golf enthusiasts played the finals in the annual golf tournament, several matches having been played during the five-day session.

Oscar Fogg of the American Gas Association was one of the guests at the convention.

Rotarians Dine Atop Concord Holder

The Concord Rotary Club recently held one of its weekly meetings at the plant of the Concord Gas Company, Concord, N. H. A. J. Smith, manager of the company, and Isaac Hill, in charge of the meeting, saw to it that the Rotarians would not soon forget their visit to the gas plant.

Nearly 100 per cent attendance of the club members dined on the crown of the new 500,000 cubic feet storage holder, high above the house tops—perhaps the first affair of its kind in the history of the gas industry. The holder made an ideal location for the dinner, as the members could be seated in a circle, symbolic of the Rotary wheel.

Dividends Declared

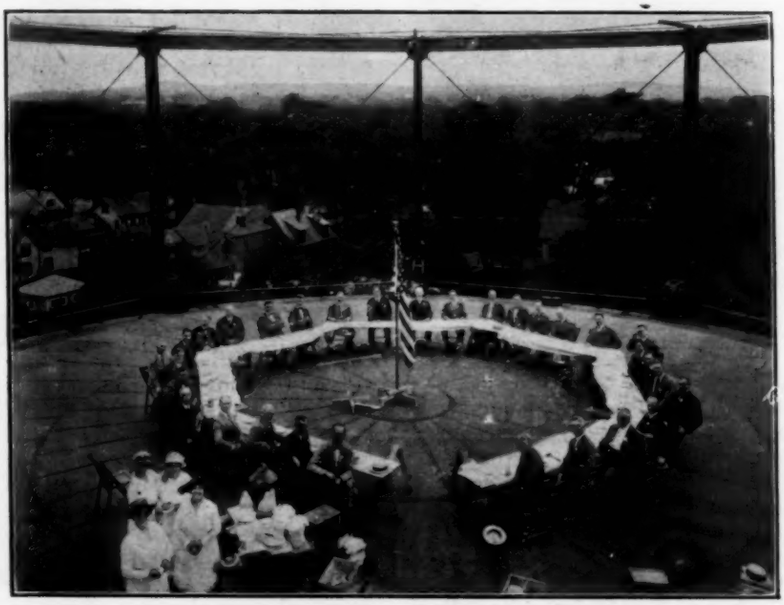
Montana Power, regular dividends of $1 on common and 1¾ per cent on preferred.

Standard Gas and Electric, its regular quarterly dividend of 2 per cent on preferred, payable September 15 to stock of record August 31.

Washington Gas Co. Offers to Install New Plant in Kinston

Washington, N. C.—Judge S. C. Bragaw and J. T. Bland, superintendent of the Gas Company, visited Kinston and while there met the Kinston Board of Aldermen in session and laid before them a proposition to install a gas service in Kinston, the same as Washington enjoys.

Judge Bragaw and Supt. Bland both addressed the meeting regarding the proposition, with the result that the Kinston mayor and aldermen will visit Washington to inpect the plant here.



Rotarians Dining on Top of Concord, N. H., Gas Holder

New Schedule is Made Public

Racine, Wis.—Gas rates in Racine will be reduced 10 cents per thousand cubic feet on the first 100,000 cubic feet consumed by each customer, and 5 cts. per thousand on the next 150,000 cubic feet. Proportional decreases will be made in Kenosha, South Milwaukee and Cudahy. Announcement of the change was made by General Manager D. E. Callender, after the new rates had been filed with the Wisconsin Rate Commission, and accepted by that body.

In voluntarily reducing the prices, Mr. Callender explained that the action was taken in accordance with the promise made to the public last spring. He stated then that if the new coal contracts, to be made this summer, showed an appreciable reduction in price, that a change in rates would be made.

"It is the settled policy of this company to reduce rates whenever the financial showing will permit," said Mr. Callender. "Last year's operating conditions did not warrant the reduction of rates, but we can now safely anticipate the saving in the new coal supply.

"We will begin using lower-cost coal to make gas on Sept. 1. This enables us to reduce gas rates in Racine, Kenosha, South Milwaukee and Cudahy, ten cents a thousand feet on each of the first four steps of our rate schedule, and five cents on the fifth step. Residence customers will all get the ten cents reduction.

"In Racine and Kenosha, the first step in our schedule is cut from $1.45 net per thousand feet to $1.35 net; the second, from $1.25 to $1.15; the third, from $1.10 to $1.00; the fourth, from $1.00 to 90 cents; the fifth, from 90 cents to 85 cents.

"In South Milwaukee and Cudahy, where long distance delivery is an added cost factor, the first step in our schedule is cut from $1.55 to $1.45; the second, from $1.45 to $1.35; the third, from $1.35 to $1.25; the fourth, from $1.20 to $1.10; the fifth, from $1.05 to $1.00.

"As in any other business, lower prices produce larger sales. Wisconsin Gas & Electric Company, therefore, has always been glad to cut its rates voluntarily whenever it could do so without sacrificing the 8 per cent return on its investment which is needed to maintain the company's credit and its service efficiency.

"Under some of our earlier rate reductions, and particularly under the reductions ordered two years ago by the Railroad Commission over the company's protest, the rates have failed to yield the 8 per cent fair return. During the last six years our Racine and Kenosha gas business has yielded $264,434.85 less than the 8 per cent return. Our gas business as a whole during the same six years has yielded $486,086.94 less than the 8 per cent return.

"We figure that with cheaper coal our new rates will probably yield the 8 per cent return with a small margin over to make good the shortage in earnings for the past six years."

Following is a letter sent the rate commission by Mr. Callender:

"Racine, Wis., Aug. 15, 1923.

"Railroad Commission of Wisconsin.

"Madison, Wis.

"Dear Sirs:

"At a meeting with the officials of the city of Racine on May 23 the company made the announcement that a reduction in gas rates could not be made at that time, but that a voluntary reduction would be made as soon as the financial showing of the company would permit. It was pointed out at that time that the company was using stocks of coal purchased under last year's contracts at higher prices and that at the then current rate of consumption such stocks would be substantially depleted about Sept. 1. Present conditions indicate that such coal stocks will be exhausted approximately on that date after which the new stocks under this year's contracts at lower rates will be used.

"Although there has been some increases in cost of labor, the decrease in the cost of coal under present contracts will permit the voluntary reduction in gas rates which the company had in mind, and we are accordingly applying to your commission for authority to make the reduced rates stated herein, effective for gas sold after the first regular meter reading subsequent to Sept. 1.

"While the company's promise of a voluntary reduction was only made to the citizens of Racine, it is the intention of the company to make the same reduction effective in Kenosha, Cudahy, South Milwaukee and territory served by the company and generally known as the Lake Shore properties.

"We are enclosing herewith four exhibits, which, you will find, very forcefully bear out our statements that we were not in a position to make any reductions in gas rates under operating conditions which prevailed during the past year, or in fact have reductions heretofore made been wholly justified in the light of the subsequent earnings on the gas property. Exhibit No. 1 shows that for the past six years the Racine gas utility has failed to make the allowable 8 per cent return on its gas utility property by $264,434.85. For the same period the Lake Shore gas utility as a whole shows a deficit of $406,086.94, the details of which are shown on exhibit No. 2. On exhibit No. 3 is shown the rate of return earned on the Racine gas utility by months for the 12 months ended June, 1923, indicating a deficit under an 8 per cent return of $72,690.50. A corresponding exhibit No. 4 for the Lake Shore gas utility shows a deficit of $109,758.41. These exhibits among other things show the comparative uniformity of rate of earnings on the Racine utility and the Lake Shore gas utility as a whole.

"We realize that on the basis of these exhibits, which are prepared in strict conformity to methods used by your commission for these properties in the past, that the company could not be required or expected to make a reduction in gas rates except upon demonstration to you that the decrease in operating expenses which will accompany the lower price of coal to be used after Sept. 1 would permit such reductions to be made. We shall supply such information as you may require for this pur-

pose. We further believe that we could and might properly postpone any reduction for a considerable period until results of operation would show that the expected improvement in earnings had become a reality.

"We desire, however, to keep faith with our customers and shall accordingly make the voluntary reduction effective on the date previously indicated, of 10 cents per 1,000 cubic feet on the first four steps of the present gas rate schedule and 5 cents per 1,000 cubic feet on the fifth step thereof.

"In connection with the careful investigation which has been made of the gas rate situation, an extensive study has also been made of electric service and street railway rates. While the electric and street railway service is furnished by The Milwaukee Electric Railway & Light Company in Racine, the undersigned as Racine manager for that utility is able to state that there is no possibility at this time of making any reduction in the rates for such service. In conformity with their established practice, however, the companies are prepared to make reductions in all utility service rendered as soon as conditions will permit.

"Will you kindly place the foregoing gas rate reductions on file and acknowledge receipt.

"Very truly yours,
"Wisconsin Gas & Electric Company,"
" By D. E. Callender,
"General Manager."

City to Have $1 Gas Rate September 1

Rochester, N. Y.—Gas at one dollar per 1,000 cu. ft. was available for Rochester householders beginning September 1st, in accordance with a ruling at Albany by the State Public Service Commission. Mayor Clarence D. Van Zandt several months ago petitioned the service body to permit the lowering of gas rates here.

The new rate will remain effective until October 1st, 1924, and thereafter until otherwise ordered by the commission. The Rochester Gas and Electric Corporation is authorized to make a minimum monthly charge not exceeding fifty cents for each consumer.

Investigation of gas rates here was conducted by Commissioner Van Voorhis following the petition of Mayor Van Zandt. The latter claimed that the company was receiving from its commodity rates for gas a revenue greater than was required to pay its operating costs, provide a surplus, and yield a reasonable return upon the company's property involved in the furnishing of gas to the public.

The company in defense stated that the present rate for gas, $1.05 cents, was not unreasonable in view of the fluctuation in the demand for gas from season to season, variations in the cost of materials and its forecast for the 1923 business season based upon the best estimates obtainable.

In a memorandum accompanying the order, Commissioner Van Voorhis states that the evidence furnished at hearings in Rochester, supplemented by a statement of gas costs for the period of six months ending June 30th, 1923, indicated that the dollar charge would meet the costs of operation and yield a revenue of 8 per cent upon capital expended. He recommended the adoption of the order to the commission, the measure receiving a unanimous vote.

Herman Russell, vice-president of the Rochester Gas and Electric Corporation, expressed confidence in the ability of the company to meet the cut in gas rates, provided that no undue disturbances occur in the coal fields that would cause a sharp rise in fuel costs.

"The contracts we made a few months ago for oil and gas coal will enable us to get by," Mr. Russell said. "At the time the petition was presented by the city, we had not made those contracts, and for a time it seemed that we would be unable to make the cut. If our purchasing agents hadn't been able to secure favorable terms for oil and coal purchases, we might have been obliged to fight the action of the city."

Coal Production in Colorado

J. B. Dillon

Since January 1, up to August 1, the coal miners of Colorado have produced 5,716,000 tons of coal.

The average number of men employed in and about the mines in the first seven months of the year was 12178, and of the 212 days the coal mines averaged eighty-seven days of operation, leaving an average of 125 days on which they did not work.

There are sixty counties in Colorado, twenty-three of them producing coal. The first seven months of 1923 shows an increment of 637,761 tons of coal produced, over the corresponding period of 1922.

The following table shows the counties, men and production.

County—	No. of men Employed in July, 1923	July Production.	Total Tonnage.
Boulder	473	23,720	317,470
Delta	92	8,870	48,160
Elbert	...	.....	2,035
El Paso	217	13,148	201,220
Fremont	971	27,887	327,658
Garfield	19	1,352	11,973
Gunnison	569	49,510	308,579
Huerfano	2,375	161,919	1,103,915
Jackson	27	1,966	25,118
Jefferson	144	6,508	94,281
La Plata	137	8,732	61,897
Las Animas	4,078	249,850	1,948,413
Mesa	223	15,896	82,789
Moffat	5	204	1,032
Montezuma	9	174	1,711
Montrose	2	95	561
Pitkin	...	.....	1,003
Rio Blanco	3	80	2,211
Routt	1,256	68,106	417,260
Weld	872	51,237	759,372
Totals	11,472	689,254	5,716,658

Organize State Committee on Public Utility Information

Portland, Ore.—Leading public utilities for the State have just formed a joint organization to be known as the Oregon Public Utility Information Bureau, the purpose of which is to endeavor to promote among the people of the State a closer understanding of the services and problems of the public utilities which form such an essential factor in the progress and development of modern community life.

Identified with the Bureau from the start, will be seven of the largest public utility companies in the State, with a combined invested capital aggregating approximately $125,000,000. These companies now serve about 200,000 customers with light and power, gas and heat, as well as providing electric railway transportation for many communities. Likewise, these companies now have on their books between 12,000 and 15,000 local stockholders in their home territory, and this number is growing by the thousands each year under the operation of what is known as the "customer ownership" plan.

Nearly 150 of the leading cities and towns in the State receive service from this group of companies which includes the Portland Railway, Light and Power Company, Portland Gas and Coke Company, Pacific Power and Light Company, Northwestern Electric Company, Mountain States Power Company, Eastern Oregon Light and Power Company, and the California-Oregon Power Company.

For several months preliminary negotiations have been carried on and the final organization was completed during the past week, with the following personnel of the committee: Chairman, Franklin T. Griffith, president Portland Railway, Light and Power Company; Secretary-treasurer, John A. Laing, vice-president Pacific Power and Light Company, the other members being C. M. Brewer, vice-president and general manager of the Mountain States Power Company, Albany, Ore.; J. P. Lottridge, vice-president and general manager of the Eastern Oregon Light and Power Company, Baker, Ore.; Paul B. McKee, vice-president and general manager of the California-Oregon Power Co., Medford, Ore.; Guy W. Talbot, president of the Portland Gas and Coke Company, Portland, and L. T. Merwin, vice-president and general manager of the Northwestern Electric Company, Portland, Ore.

This committee has selected as Director of the Public Utility Information Bureau, W. P. Strandborg, who for the past eight and one-half years has had charge of the publicity and advertising department of the Portland Railway, Light and Power Company, prior to which time, he had fifteen years' experience in daily newspaper work in the East and West. Strandborg is also president of the Public Utilities Advertising Association and for a number of years was vice-president of the Associated Advertising Clubs of the World for the Pacific Coast district. He is a graduate of Western Reserve University, Cleveland, Ohio, and began his newspaper career on the Plain Dealer and Press, in Cleveland. In 1903 he went to the Pacific Coast as editor of the Seattle Star and later was special writer on the Evening Telegram, Portland, Ore.

"The fundamental purpose of this new organization," explained Chairman Griffith, recently, "is to furnish to the people of Oregon accurate information and facts about the public utility business. Its activities are to be purely informative and educational in character and in no sense for the purpose of spreading propaganda. It is the desire of the managers of public utility companies in Oregon that the people of this State become acquainted as thoroughly as possible with all the facts, economic and otherwise, regarding the organizations which furnish the people with electric light, power, gas, and city and interurban traction service.

"The operators of these utilities believe that a policy of full publicity respecting their business will be of great aid to them in the solution of many problems; and that, with a better understanding by the people of the scope and needs of utilities, will develop greater co-operation between the managements of these companies and the people who constitute their customers.

"The new Information Bureau will make every effort to keep the people of Oregon informed on matters pertaining to the public utility industry as a whole, and particularly in matters relating to service, new developments, and any other activities which may be of general interest.

"It is our intention to provide the new bureau with such facilities that the people of the State may call upon the Bureau Director by wire, telephone, letter or in person, for facts or information in regard to utilities in this State, and every effort will be made to give accurate and authentic reply to such inquiries as quickly as possible.

"In the last few years, the rapid development of public interest in public utilities problems, the realization that the services furnished by these organizations are absolutely essential to domestic comfort and industrial growth, and that these companies provide one of the safest investments for savings, large or small, we feel, has rendered necessary such an organization as we have now perfected.

"We hope to be able to co-operate in the closest possible manner with the press of the State, with educational institutions of all kinds, with civic organizations and the public generally, so that we may be able, so far as possible, to make clear the manner in which our industry is developed and operated.

"While the Public Utility Information Bureau is a new movement here in Oregon, the same plan has been in operation successfully in many states for some time. There are at the present time, nearly thirty such bureaus in the United States."

The headquarters of the Oregon Bureau will be Suite 820, Electric Building.

Rushing Work on City's Gas Plant

Kokomo, Ind.—Completion of the new gas plant now being constructed by the Kokomo Gas and Fuel Company by the end of October is prophesied by Walter P. DeVinney, engineer for the company.

The work on the 16-inch main which is being laid from the plant to an alley on Superior street between Union and Market streets, will be finished in 10 or 15 days, Mr. DeVinney said, and the completion of this portion of the construction will solve a large number of the problems of getting gas to the consumers promptly after the new plant is completed. Workmen are now laying the line in the alley at a point north of the South Apperson plant, and are progressing rapidly.

Fitters and riveters are busy at the new plant putting together the huge gas holders and gas machinery, and brick masons began Monday to lay the walls of the generating house. Pressed brick is being used, and the roof will be made of tile. However, the most important work going forward at the present time is the construction of the huge storage tank, which will be 106 feet in diameter and 125 feet high from the foundation. When this tank is completed, which will be some time the first of September, it will be possible to store gas from the old plant and thus give much better service to the consumers. Already the outer wall of the tank and one of the three inner sections is completed. The top of the bell, or gas container proper, is also in place and workmen were at work yesterday riveting together the seams.

According to Mr. DeVinney, the belel or gas container, will have three telescoping sections, which will expand as the pressure of gas increases. The seams in between these telescoping section will be sealed in water contained in the large outer wall already completed. One of the telescoping sections already is built, and the other two telescoping sections will be built from the top of this section. A superstructure over the entire holder also remains to be raised and put in place.

The bulk of the gas machinery already has been moved in place in the generating house, and put together although an immense amount of work remains to be done. The two purifying tanks are complete, except for a few details, Mr. DeVinney said. The relief holder probably will be finished in about three weeks. The boilers already are moved to their foundations in the generating house, and as soon as the brick masons have progressed further with the work of laying the walls, the process of installing the electrical machinery will begin.

Two of the gas generators and carburetors are set up and present their red cupola-like bulks to the sky. Two smaller generators and carburetors remain to be set up, however. The large super-heater and waste heat boiler also is set up, as are some of the pumps used in forcing gas from tank to tank.

The installation of the waste heat boiler will make the Kokomo plant one of the most modern to be found anywhere, says Mr. DeVinney, and should make possible a degree of efficiency and economy to be found in but few of the larger cities. This boiler utilizes what extra heat that has been used in raising the temperature of the gas while in the process of manufacture, in producing steam, which is turned into the steam holder at once and is used for power and in the generator where large quantities of steam are turned in upon the burning coal to make blue gas.

From the generator the blue gas goes to the carburetor where oil is sprayed upon the hot gas, giving color to the gas. The fuel then goes to the super-heater, and thence to the waste heat boiler; from there to the relief holder and condenser where the gas is cooled and the vaporish ingredients of oil, water, sulphur and other impurities are condensed and removed. The gas then goes to the purifiers where additional impurities are removed, and finally to the large commercial holder.

The gas will be made by blowing blasts of air through the gas machines for two minutes at a time and at three minute intervals. These blasts of air are made necessary in order to raise the temperature of the gas to approximately 1,300 degrees in the carburetor and superheater. A low grade production gas is produced while the blasting of air is going on, and is burned in the gas machinery.

Gas Franchise is Big Aid to City

Birmingham, Ala.—The Industrial Gas Corporation, which was given a franchise by the city in an ordinance adopted by the city commission, to lay gas pipes from the by-product coke oven plant at Tarrant City to North Birmingham and the plant of the American Cast Iron Pipe Company, means a big industrial development for North and East Birmingham. The Alabama By-Products Corporation at Tarrant City has upwards of eight million cubic feet of by-product gas daily available, this gas being most acceptable for manufacturing purposes.

The Industrial Gas Corporation, headed by Brewer Dixon, president, will begin at once the laying of the 16-inch cast iron pipe purchased in this district, and after the plant of the American Cast Iron Pipe Company has been reached, the business of that company will be sought, in fact, some contracts are about to be closed. The capitalization of the Industrial Gas Company is at a nominal amount but will be materially increased shortly.

The National Cast Iron Pipe Company at Tarrant City is now getting gas from the Alabama By-Products Corporation as is also the Vulcan Rivet Company. The Lehigh Portland Cement Company and gets fuel also. Many industries are located in North Birmingham which are anxious for fuel of this kind and the Alabama By-Products Corporation must keep in steady operation so there will be a steady supply of gas. It is estimated that with 60 to 90 days the gas will be flowing through the first pipe to North Birmingham.